

REMARKS

Status of the Application

Claims 1-20 are pending. Claims 12-15 have been withdrawn from consideration as being drawn to a non-elected species. Claims 1-7, 10, 11 and 16-20 stand rejected. Claims 8 and 9 are objected to.

Section 103 Rejections

Claims 1, 10 and 11 Rejections

The Examiner rejected claims 1, 10 and 11 under 35 U.S.C. Section 103(a) as being unpatentable over Applicant's admittance of prior art and Heaney U.S. Patent No. 4,127,188.. Applicants submit that claims 1, 10 and 11 are allowable over the admitted prior art and Heaney for the following reasons.

1. There is no suggestion or motivation to modify the admitted prior art according to Heaney

As stated in paragraph 0007 of applicants' specification, "The present invention builds on the idea of making a support post from multiple kinds of paper, but instead of using multiple kinds of paper of similar thickness as taught in the Qiu '329 patent, the present invention uses paper of different thicknesses." This statement is reflected in claim 1, which is written in Jepson form. A Jepson claim recites all or some of the elements of a known article (in this case, the post of the Qiu '329 patent) in the preamble, and recites in the body of the claim the new or modified elements. Accordingly, the preamble to Applicants' claim 1 recites elements taught in the Qiu '329 patent, and the body of the claim recites a modified element ("at least one of the plies that

forms the middle layer being thicker in at least some areas than the outer facing layers") not taught by Qiu.

Heaney discloses a sheet 16 for securing glass doors in which corrugated strips 20, 22 have been placed along a middle portion of the sheet 16. The strips 20, 22 cause the middle portion to be thicker than the end portions, the purpose of which is to define grooves 26 therebetween to receive the edge of a glass door (col. 4, lines 60-62). Heaney does not teach a thin/thick/thin ply sheet wrapped into a post.

Obviousness can only be established by combining the prior art where there is some teaching, suggestion or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Fine, 837 F.2d 1071 (Fed. Cir. 1988). Here, there is no teaching, suggestion or motivation in the Qiu or Heaney references or in the general knowledge available to modify the Qiu post by making at least a portion of Qiu's middle layer thicker.

Heaney teaches the use of corrugated strips 20, 22 which does make the middle area of Heaney's sheet 10 "thicker." However, Heaney's strips 20, 22 are intended to define grooves 26, not to increase the bending stiffness of a wound tubular structure, which is the object of applicants' invention (see applicants' specification at paragraph 0005). The Heaney sheet 16 needs no added bending stiffness because it lies on top of and is affixed to a wood support 30 (col. 5, lines 66-67 and Fig. 2). A person of ordinary skill in the art of support posts would not be motivated by the Heaney reference to make a support post having improved bending stiffness by adding Heaney's corrugated strips 20, 22 to the middle portion of the support post sheet because Heaney's strips 20, 22 are not intended to increase bending stiffness.

2. Modifying the Qiu '329 support post according to the teachings of Heaney would Render the Qiu post inoperable

If the proposed modification or combination of prior art references would change the principle of operation of the prior art invention being modified or render the reference inoperable for its intended purpose, then the teachings of the references are not sufficient to render the claimed invention prima facie obvious. In re Ratti, 270 F.2d 810 (CCPA 1959), cited in MPEP Section 2143.01. Even if one skilled in the art were somehow motivated to modify Qiu by adding Heaney's corrugated strips to Qiu's middle layer, the proposed modified post wouldn't be suitable as a support post. Heaney achieves a thicker middle portion by placing along a portion of the base sheet's longitudinal dimension corrugated paperboard strips 20, 22. (Col. 4, lines 57-60) If Qiu's paperboard sheet were modified by affixing the strips 20, 22 of Heaney, the modified paperboard sheet would not be suitable for winding into a support post because the strips would prevent proper winding. This is particularly true if, as Heaney teaches, the strips 20, 22 have "interleaved corrugated paper" (col. 4, lines 67-68), which would crush when wound into a support post. Even if a sheet with Heaney's strips could be wound into a support tube, the tube wall would have gaps or spaces where Heaney's strips define grooves 26. The spaces would reduce or eliminate any increased bending stiffness that otherwise might have been achieved by using the strips.

Claims 2-7 and 16-20 Rejections

The Examiner rejected claims 2-7 and 16-20 under 35 U.S.C. Section 103(a) as being unpatentable over Qiu in view of Heaney and Braun U.S. Patent No. 5,799,797. Applicants submit that claims 2-7 and 16-20 are allowable for at least the same reasons as amended claim 1.

In specific regard to claim 2, applicants continue to assert that Braun does not teach an embossed middle layer of material. Rather, Braun clearly teaches a corrugated middle layer in Fig. 3 and at col. 4, lines 22-29.

In regard to claim 5, applicants have amended the claim to require the further limitation that the base sheet is a unitary sheet having a thicker middle section. In other words, the base sheet is not comprised of multiple sheets affixed together nor does it comprise additional sheets or portions of sheets affixed to it to increase its thickness in the middle. Accordingly, applicants' respectfully submit that amended claim 5 is allowable over the admitted prior art and Heaney and Braun because neither Heaney nor Braun discloses a unitary sheet having a thicker middle layer. Rather, Heaney teaches a unitary sheet 16 that is of uniform thickness (Fig. 3), but having strips 20, 22 affixed to the unitary sheet 16 in the middle. Put another way, if one considers the strips 20, 22 part of the "base sheet", then Heaney's base sheet is no longer unitary as required by amended claim 5. Braun, of course, teaches three sheets laminated together to form corrugated paperboard.

Allowable Subject Matter

Applicants note with appreciation examiner's statement that claims 8 and 9 would be allowable if rewritten in independent form.

Summary

It is believed that this paper constitutes a complete response to the Office Action mailed August 24, 2004, and an early and favorable action allowing claims 1-11 and 16-20 is respectfully requested. The Examiner is invited to telephone applicants' undersigned attorney if any unresolved matters remain.

Respectfully submitted,


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